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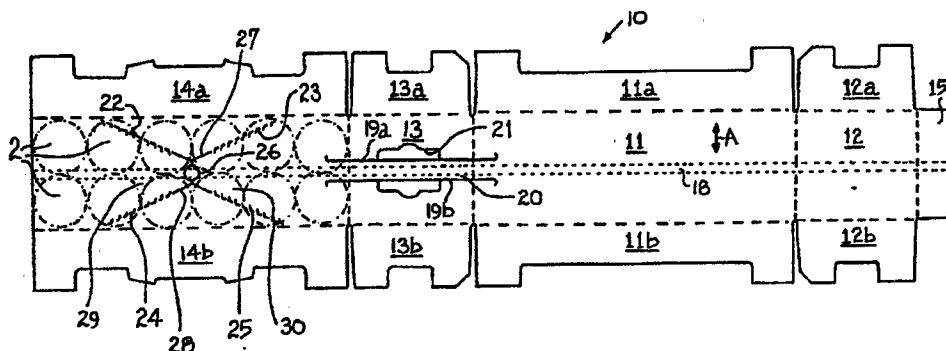
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(54) **Cartons**

(57) A packaging carton erected from a unitary blank (10) has a carrying handle (20) in a first wall (13) reinforced with a reinforcing strip (18) and a second wall (14) adjacent the first wall (13) provided with lines of weakness (22-25) tearable to provide an access opening in the second wall.

FIG. 1



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FIG. 1

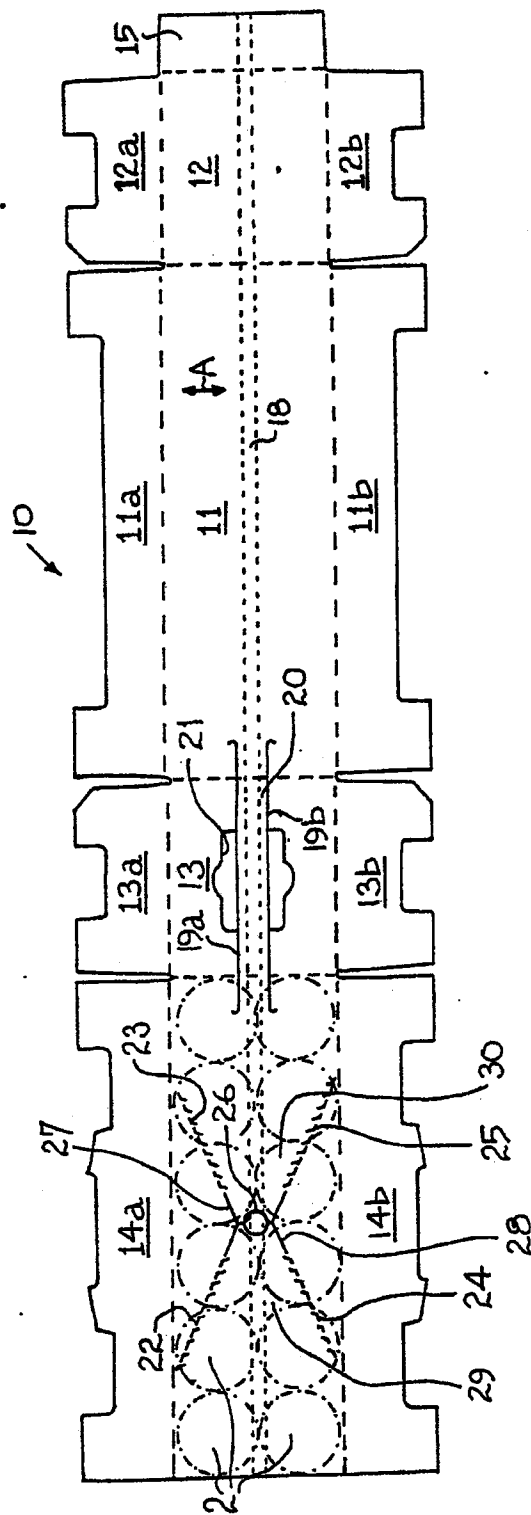


FIG. 2

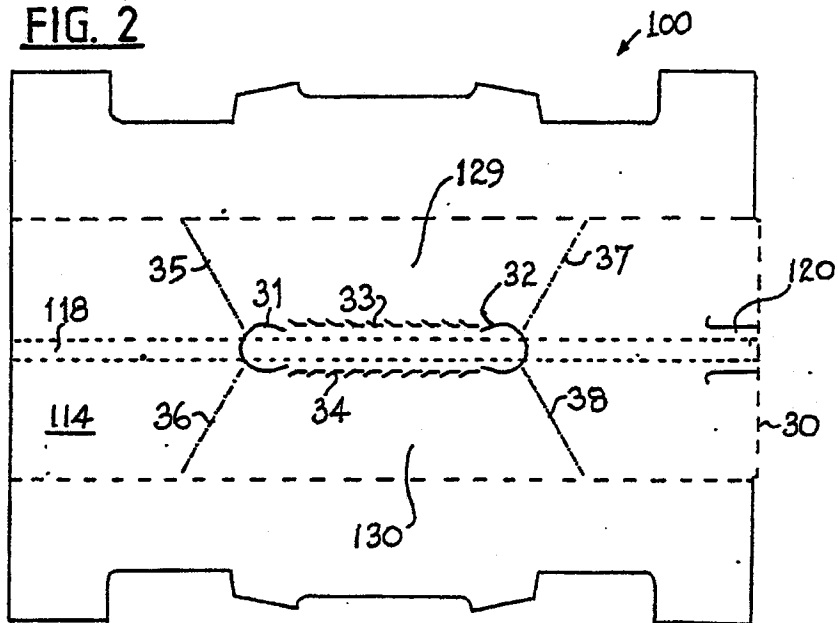
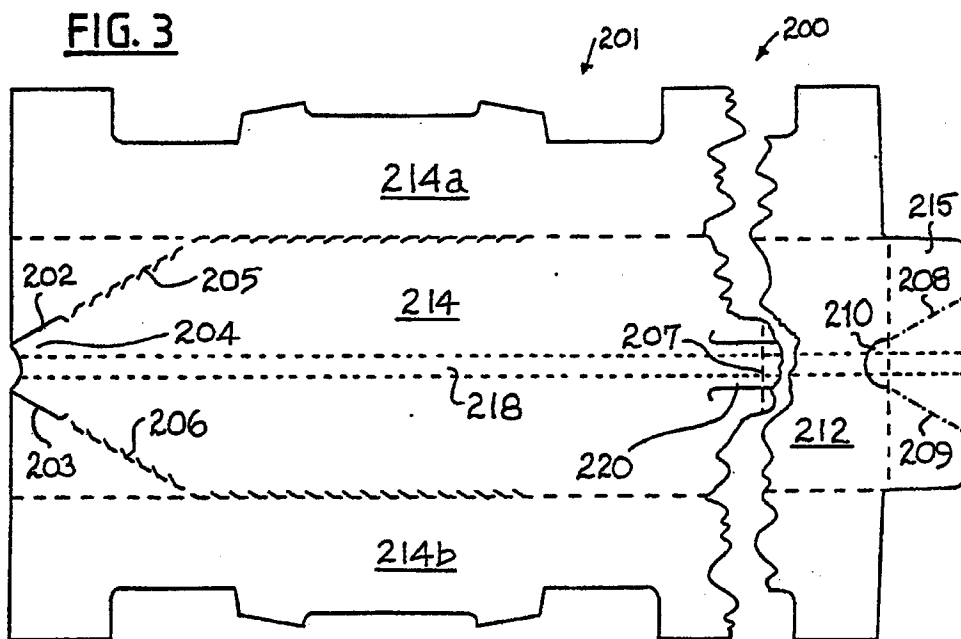


FIG. 3



CARTONS

This invention relates to a packaging carton erected from a blank of stiff yet foldable sheet material and of the kind comprising a carrying handle reinforced with a reinforcing strip material means in a first wall of the carton and lines of weakness positioned so that tearing of the sheet material therealong provides an access opening into the carton. The invention also relates to a blank of stiff yet foldable sheet material from which such a packaging carton of the kind referred to can be erected.

A carton of the kind referred to is already known from EP-A-0260813. In this known specification the lines of weakness are so positioned that the access opening when formed, is arranged to be in the said first wall, i.e. the same wall as that in which the carrying handle is provided.

The present invention seeks to provide a packaging carton of the kind referred to in which the lines of weakness are positioned so that the access opening, when formed, is arranged in a second wall adjacent to the said first wall.

According to one aspect of the present invention a packaging carton of the kind referred to is characterised in that the lines of weakness are so positioned that the access opening, when formed by tearing the sheet material along said lines of weakness, is provided in a second wall of the carton adjacent to the said first wall.

Preferably the said reinforcing strip material means extends unbroken from the carrying handle and along at least part of an adjacent, preferably the said second, wall. The provision of the reinforcing strip material means in the second wall conveniently facilitates tearing of the sheet material along said lines of weakness.

Suitably at least one wall of the carton adjacent each of the first and second walls has a viewing aperture therein to provide a "contents-on-view" carton.

According to another aspect of the present invention a
5 blank of stiff yet foldable sheet material erectable into a packaging carton and comprising a first panel destined to form a first wall of the erected carton and provided with means defining a handle reinforced with reinforcing strip material means, a second panel destined to form a second
10 wall of the erected carton adjacent to said first wall and lines of weakness positioned so that tearing of the sheet material therealong provides an access opening, is characterised in that the lines of weakness are so positioned that the access opening, when formed in the erected carton,
15 is provided in said second wall.

Embodiments of the invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 shows a first embodiment of a blank according
20 to the invention,

Figure 2 shows, on an enlarged scale, a modified end panel for a second embodiment of a blank according to the invention, and

Figure 3 shows, on an enlarged scale, modified parts
25 of opposite ends of a third embodiment of a blank according to the invention.

The blank 10 of Figure 1 is designed for packaging twelve 440 ml cylindrical cans 2 of drink (e.g. beer or lager) and is made of any suitable stiff yet foldable sheet
30 material, e.g. double-faced corrugated fibreboard. It comprises a base wall 11, two end walls 12 and 13, a top wall 14 and four flaps 11a-14a and 11b-14b to provide frame

or perimeter regions of apertured side walls in the erected carton. A securing flap 15 is formed along one edge of the end wall 12 and is attached to the underside of the top wall 14 as the blank is folded around twelve cans 2 arranged in two rows of six the central or median plane of the folded carton lying between the two rows of cans 2. In wrapping the blank around the collated array of twelve cans, the flaps 12a, 13a underlie the flaps 11a and 14a to make one apertured side wall and the flaps 12b, 13b underlie the flaps 11b and 14b to make the other apertured side wall.

The folding and gluing (or other fixing method) used to form a carton from the blank illustrated are well known procedures which need not be described in detail here.

When the blank is of double-faced corrugated fibre-board the flutes of the corrugations run in the direction of the arrows A. The pre-formed creases that delimit the walls 11, 12 and 13 and their flaps (11a, 12a, 13a, 11b, 12b, 13b and 15) are conventionally formed and all fold downwardly as shown in the drawing.

Embedded between layers of the board material from which the blank is made is a first reinforcing tape 18 (e.g. a hot melt adhesive-coated polyester fibre tape made by Sesame Industries Ltd. of Quebec, Canada). This tape 18 extends from one to the other end of the blank 10, is centrally located across all four walls 11-14 and is flanked by two parallel cuts 19a and 19b on each side of the tape 18, as the tape 18 crosses the end wall 13, to define a carrying handle 20. Cut-outs 21 provide finger access to the handle to lift it clear of the end wall 13, when the filled carton is to be carried. The cuts 19a and 19b also extend somewhat into the walls 11 and 14 and allow the ends of the handle 20 to move inwardly as the central region of the handle 20 lifts clear of the end wall 13.

A circular cut-out 26 severs the reinforcing tape 18 substantially mid-way along the length of the wall 14 to provide a finger access opening and joins up with cut lines 27 and 28. Lines of weakness 22-25 in the form of perforated or slit-score lines are also formed in the wall 14 to define access flaps 29, 30, lines 22 and 23 being on one side of the tape 18 and lines 24 and 25 being on the other side of the tape 18. To dispense cans from a carton erected from the blank shown in Figure 1 of the drawings, the access flaps 29 and 30 are pulled back in opposite directions from the cut-out 26 so that the sheet material is torn along the respective pair of lines of weakness 22, 24 and 23, 25 exposing the ends of the cans 2. The provision of the reinforcing tape 18 in wall 14 and extending in the "tear" direction of the flaps 29 and 30 facilitates the tearing of flaps.

Although not shown in Figure 1, two additional reinforcement tapes may be employed on the blank 10 extending parallel to the tape 18 and passing through the flaps 11a-14a and 11b-14b. The precise position of these additional reinforcement tapes in the flaps 11a-14a, 11b-14b can be changed but in general it is preferred if they are as close as reasonable to the long cut edge of the respective flap.

It will be appreciated that the lengths of the walls 14 and 11 can be varied depending on whether the carton is designed to hold a different number of, e.g. four, six, eight or ten, cans of drink.

Incorporating the reinforcing tape 18 into a corrugated board material by inserting it between layers of the board material fed to the corrugator on which it is fabricated, is a preferred method but it is possible to use a reinforcing tape which is supplied with a wider backing strip of fibrous material (e.g. cloth or paper) and to adhere the backing strip to the layer of board material destined to define the inside of the carton so that the

tape is sandwiched between the backing strip and the board material. Using a suitable hot-melt adhesive it is still possible to apply the reinforcing tape on the corrugator although with strip-backed tape, the reinforcement for the
 5 at least one perimeter region can be effected as a stage in the manufacture of the board material after all the layers of board material have been placed together and prior to the final heating of the board material. A Kraft paper strip of between 5 and 10 mm wide (e.g. 6 mm) supporting a
 10 narrower fibrous reinforcing tape (e.g. 3 mm) would be suitable.

It will be appreciated that the wall 14, with the access opening formed on tearing the sheet material along the lines of weakness 22-25, is positioned adjacent the
 15 wall 13 with the carrying handle 20 and the presence of the reinforcing tape 18, positioned in the wall 14, facilitates tearing of the sheet material along the lines of weakness 22-25. This provides a further use for the reinforcing tape 18 in addition to providing reinforcement for the
 20 handle 20. Furthermore the wall 14 is also adjacent walls in the erected carton containing the contents viewing apertures defined by the shaped edges of the folded flaps 11a-14a and 11b-14b. Since the access opening is not in the wall 13 containing the handle, the removal of cans 2 is
 25 not hindered or hampered by the handle 20. Since the access opening is not in the walls containing the contents viewing apertures these walls are not weakened by the presence of the access opening.

Figures 2 and 3 show modifications of the ends of the
 30 blank 10 shown in Figure 1 and in particular illustrate alternative designs for provision of an access opening.

The blank end portion 100 shown in Figure 2 is intended to replace the wall 14 and flaps 14a and 14b of the blank 10. In particular the fold or crease line 30 corresponds to the fold or crease lines between the walls 13
 35

and 14 of the blank 10. As can be seen in Figure 2, the end portion 100 has two horseshoe shape cut lines 31 and 32 severing the reinforcing tape 118 which reinforces the carrying handle 120. Tearable lines of weakness 33 and 34 extend parallel to the reinforcing tape 118 between the cut lines 31 and 32. Further lines of weakness 35-38, typically in the form of perforated lines, extend from the fold or crease lines defining the opposite sides of the wall 114 to the cut lines 31 and 32 - lines of weakness 35, 36 diverging from the cut line 31 and lines of weakness 37, 38 diverging from the cut line 32. In use, the tab defined by cut line 31 or 32 is raised and the strip of material between the lines of weakness 33 and 34 is torn away between the cut lines 31 and 32. Access flaps 129 and 130 are then opened up by tearing the sheet material along the lines 35, 37 and 36, 38, respectively. The present of the reinforcing tape 118 again facilitates these tearing operations.

Figure 3 shows part of a modified blank 200 having one end portion 201 consisting of the wall 214, flaps 214a and 214b (which are intended to replace the one end portion of the blank 10) and an end flap 215 (intended to replace the end flap 15 of blank 10). The remainder of the blank 200 is substantially the same as blank 10.

The end portion 201 has a pair of cut lines 202, 203 defining a pull up tab 204. Lines of weakness 205 and 206 diverge, respectively, away from the cut lines 202 and 203 until they reach the opposite edges of the wall 214 where they extend along these opposite edges parallel to each other and the reinforcing tape 218. The lines of weakness 205 and 206 terminate well short of the boundary line 207 between the wall 214 and the adjacent wall containing the carrying handle 220. To facilitate the tearing of the sheet material to reveal the access opening in the erected carton, the end flap 215 has diverging lines of weakness 208 and 209, typically in the form of perforated lines,

which correspond to the cut lines 202 and 203, respectively. A cut line 210 severing the reinforcing tape 218 is also provided in the end wall 212 to which the end flap 215 is foldably connected. The presence of the reinforcing tape
5 218 will facilitate the tearing operations.

CLAIMS

1. A packaging carton erected from a blank of stiff yet foldable sheet material and comprising a carrying handle reinforced with reinforcing strip material means in
5 a first wall of the carton and lines of weakness positioned so that tearing of the sheet material therealong provides an access opening into the carton, characterised in that the lines of weakness are so positioned that the access opening, when formed by tearing the sheet material along
10 said lines of weakness, is provided in a second wall of the carton adjacent to the said first wall.

2. A carton according to claim 1, characterised in that the said reinforcing strip material means extends unbroken from the carrying handle and along at least part
15 of an adjacent wall.

3. A carton according to claim 2, characterised in that the said adjacent wall is the said second wall.

4. A carton according to claim 3, characterised in that said lines of weakness are positioned on either side
20 of said reinforcing strip material means.

5. A carton according to claim 3 or 4, characterised in that said reinforcing strip material means extends the length of said second wall and is broken at least once along the length of said second wall.

25 6. A carton according to any one of the preceding claims, characterised in that at least one wall of the carton adjacent each of the first and second walls has a viewing aperture therein to provide a "contents-on-view" carton.

30 7. A blank of stiff yet foldable sheet material

erectable into a packaging carton and comprising a first panel destined to form a first wall of the erected carton and provided with means defining a handle reinforced with reinforcing strip material means, a second panel destined
5 to form a second wall of the erected carton adjacent to said first wall and lines of weakness positioned so that tearing of the sheet material therealong provides an access opening, is characterised in that the lines of weakness are so positioned that the access opening, when formed in
10 the erected carton, is provided in said second wall.

8. A blank according to claim 7, characterised in that the reinforcing strip material means extends from one end to the other end of said blank.

9. A blank according to claim 7 or 8, characterised
15 in that said reinforcing strip material means extends along said second panel.

10. A blank according to claim 9, characterised in that said reinforcing strip material means is broken at least once along the part of its length passing through
20 said second panel.

11. A unitary blank of stiff yet foldable sheet material constructed and arranged substantially as herein described with reference to, and as illustrated in, Figure 1 or Figure 1 as modified by either of Figures 2 or 3.

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ABSTRACT:

CHG DATE=19990617 STATUS=O> A packaging carton erected from a unitary blank (10) has a carrying

handle (20) in a first wall (13) reinforced with a reinforcing strip (18) and a second wall (14) adjacent the first wall (13) provided with lines of weakness (22-25) tearable to provide an access opening in the second wall. ☐